ANNE ARUNDEL COUNTY
MUNICIPAL SEPARATE STORM SEWER SYSTEM (MS4)
COMPLIANCE INSPECTION

FINAL

JUNE 2009

Office of Compliance and Enforcement
U.S. Environmental Protection Agency
1200 Pennsylvania Avenue, NW
Washington, D.C. 20460

U.S. Environmental Protection Agency, Region III
Water Protection Division
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EXECUTIVE SUMMARY

Municipal Separate Storm Sewer System (MS4)
Compliance Inspection
Anne Arundel County, Maryland

On December 9-10, 2008, a compliance inspection team comprising staff from EPA Headquarters, EPA Region 3, EPA's contractor, Eastern Research Group, Inc. (ERG), and ERG's subcontractor, PG Environmental, LLC, inspected the Anne Arundel County, Maryland municipal separate storm sewer system (MS4) program. Discharges from the County's MS4 are regulated by Maryland Department of the Environment (MDE) National Pollution Discharge Elimination System (NPDES) Permit Number MD0068306, effective November 8, 2004. The purpose of this inspection was to evaluate compliance with the County's Permit MD0068306, which is included in Attachment 1. The inspection focused specifically on the following sections of the Permit in relation to the County's MS4 program: (1) Stormwater Management; (2) Illicit Discharge Detection and Elimination; (3) County Property Management; (4) Public Education; and (5) Assessment of Controls.

EPA's compliance inspection team identified several inconsistencies between the Permit and the County's actual MS4 program. Table 1 summarizes the Permit requirements and the inconsistencies noted by the inspection team.

Table 1. Concerns Identified During Anne Arundel County Inspection (12/9/08 – 12/10/08)

Maryland Permit Number MD0068306 Requirement	Inconsistencies
III.E.1 – Stormwater Management	Finding 1. Failure to conduct preventative maintenance inspections of all stormwater management facilities on a triennial basis
III.E.3 – Illicit Discharge Detection and Elimination	Finding 2. Failure to maintain a program to address illegal dumping and spills Finding 3. Failure to use appropriate follow-up and enforcement procedures for investigating and eliminating illicit discharges, illegal dumping, and spills Finding 4. Failure to develop a standard operating procedure for documenting, reporting, tracking, and conducting adequate follow-up of potential illicit discharges or other pollutant sources
III.E.4 – County Property Management	Finding 5. Failure to track the status of pollution prevention plan development and implementation Finding 6. Failure to develop and implement adequate pollution prevention plans
III.E.6 – Public Education	No inconsistencies noted with this portion of the Permit, however, the inspection team recommends further outreach regarding reporting of illicit discharges, illegal dumping, and spills; also additional public outreach materials regarding the water quality issues identified in the Permit should be developed and included in subsequent annual reports
III.H – Assessment of Controls	No inconsistencies noted with this portion of the Permit

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I. INTRODUCTION

On December 9-10, 2008, a compliance inspection team comprising staff from EPA Headquarters, EPA Region 3, EPA's contractor, Eastern Research Group, Inc. (ERG), and ERG's subcontractor, PG Environmental, LLC, inspected the Anne Arundel County, Maryland (hereafter, the County) municipal separate storm sewer system (MS4) program. The purpose of this inspection was to evaluate compliance with the County's National Pollutant Discharge Elimination System (NPDES) Permit Number MD0068306 (hereafter, the Permit), which is included in Attachment 1. The following personnel participated in this inspection:

Anne Arundel County Department of Public Works Representatives[1]:	Ms. Ginger D. Klingelhoefer-Ellis, Environmental Planning Administrator Ms. Janis Markusic, Program Manager Mr. John Peacock, Environmental Code Administrator Ms. Elizabeth Burton, Engineer Manager
EPA Representatives:	Ms. Kelly Brantner, EPA Headquarters Mr. Andrew Dinsmore, EPA Region 3 Ms. Meredith Carr , EPA Region 3 Ms. Allison Graham, EPA Region 3 Mr. Reggie Parrish, EPA Chesapeake Bay Program
EPA Contractors:	Ms. Lisa Biddle, ERG Mr. Max Kuker, PG Environmental, LLC

The inspection focused specifically on the following sections of the Permit in relation to the County's MS4 program: (1) Stormwater Management; (2) Illicit Discharge Detection and Elimination; (3) County Property Management; (4) Public Education; and (5) Assessment of Controls. During the inspection (office interviews and field visits), other sections of the Permit were briefly reviewed but were not completely evaluated.

Section II of this report presents background information on Anne Arundel County's MS4 program. Section III presents detailed information on the concerns regarding permit, and Section IV identifies additional concerns noted during the inspection.

II. ANNE ARUNDEL COUNTY BACKGROUND

Anne Arundel County is located to the south of the city of Baltimore, Maryland. As of 2006, the County's population was 509,300. According to the U.S. Census Bureau, the county has a total area of 588 square miles, of which 416 square miles (70.75%) is land and 172 square miles (29.25%) is water. The County is located on the western side of Chesapeake Bay and has 533 miles of tidal shoreline, 12 major watersheds, and 1,780 miles of nontidal stream. The County's land cover primarily consists of wooded land (43%) and medium density residential (24%). All of the major drainage basins within the County are designated as 303(d) listed waters for at least two impairment categories per basin (impairment categories include biological, nutrients, sediment, toxics, bacteria, and metals).

1 County organizational charts and a copy of sign-sheets containing the names of all county participants in the inspection are included as Attachments 2 and 3.

Anne Arundel County's MS4 program is administered primarily by three departments:

- Department of Public Works (DPW);
- Department of Inspections and Permits (I&P); and
- Office of Planning and Zoning.

During the inspection, County personnel provided a table identifying which department is responsible for each permit condition (see Attachment 3).

III. ASSESSMENT OF COMPLIANCE WITH PERMIT REQUIREMENTS

The EPA inspection team evaluated Anne Arundel County's compliance with the requirements of the Permit, under which the County's MS4 system is covered. The Permit, included in Attachment 1, has an effective date of 8 November 2004 and an expiration date of 8 November 2009. The EPA inspection team evaluated five permit components and identified several concerns regarding the County's compliance with these components, as detailed in the sections below. The concerns regarding each permit component are identified as findings within each section. Attachment 4, the Exhibit Log, contains all referenced exhibits, and Attachment 5, the Photograph Log, contains all photographs.

A. Requirement III.E.1 – Stormwater Management

The Stormwater Management program is implemented by two groups in Anne Arundel County: the Office of Planning and Zoning and the Department of I&P. The program is administered according to Article 16 of the Anne Arundel County Code, *Floodplain Management, Sediment Control, and Stormwater Management* (2005); Exhibit A includes a copy of Article 16.

Design Review

The Office of Planning and Zoning reviews new projects in the County for stormwater drainage and stormwater management using a checklist for both reviews. Copies of the *Storm Drainage Design Checklist* and *Stormwater Management Checklist* are provided as Exhibits B and C, respectively. Reviews are executed by 10 to 15 design reviewers (there were 10 at the time of the inspection) who are divided into the following four teams:

- North team – reviews non-large projects[2] in the north half of the County;
- South team – reviews non-large projects in the south half of the County;
- Regional team – reviews large projects in both the North and South parts of the County; and
- Critical area team – reviews all projects within the "critical area" (defined as the area located 1,000 feet landward from mean high tide or the edge of tidal wetlands, as designated on the State Tidal Wetland maps, and all waters of and lands under the Chesapeake Bay and its tributaries).

Projects are submitted to the County at the Permit Application Center, where they are logged into a tracking database and assigned a number and a "review-by" date. "Review-by" dates are set for 45 days from submission. Design review teams meet on a weekly basis to discuss review tasking and maintain consistency in the review process. The four design review team leaders track project reviews in the

2 The County defined large projects as 50,000 square feet of commercial or industrial construction or 100 residential units, mixed use projects, town center projects, and projects of importance to the Economic Development Corporation.

database. County staff provided an example from this database during the inspection (see Exhibit D); it lists all projects scheduled for review in December 2008.

All reviewers complete the checklists during reviews. If a design does not meet the criteria on the checklists, the designer is asked to meet with the County in person to discuss the necessary revisions. The meeting is not mandatory, but the County indicated that approximately 60% of the requested meetings occur. For all cases of insufficient design, a letter is sent to the owner and designer containing the County's comments and required revisions. These letters are all reviewed by the Engineer Manager within the Office of Planning and Zoning to maintain consistency with design review feedback. Designs must be revised per the requirements outlined in the letters and resubmitted for review.

In addition to its design review meetings, the County conducts monthly meetings with the homebuilders association and meetings every three months with the County's design engineering community.

The County is in the process of developing stormwater management design specifications. The County stated the design specifications are 95% complete and will be provided to MDE for approval in the near future. The County currently relies on the Maryland Stormwater Design Manual, the revised design specifications will be equal to, or more stringent than, the MDE requirements.

At construction completion, As-Built drawings must be submitted to the County. The County's I&P Department reviews these drawings for compliance with design requirements. A stormwater design performance bond is collected and retained by the County until design and performance approval is established. If the final design is not in compliance, the County will withhold the stormwater bond until compliance is reached. If compliance is not achieved, the County will use the stormwater bond money to finance the necessary modifications to the project to achieve compliance.

BMP Tracking

Stormwater management facilities (also referred to by the County as stormwater management devices and best management practices (BMPs)) in Anne Arundel County may be publicly or privately owned and maintained. Private stormwater management facilities are subject to a Stormwater Inspection and Maintenance Agreement, which is recorded on the property deed, making the property owner responsible for long-term maintenance. Public stormwater management devices are either located on County-owned property or within a maintenance easement and are maintained by DPW, the Department of Recreation and Parks, the Department of Central Services, or the Anne Arundel County School Board. Once construction of the public or private stormwater control device is complete, the I&P Department performs a final inspection and notifies the appropriate public agency of their responsibility for long-term maintenance. The County has additional procedures associated with the turnover of stormwater management facilities that will be maintained by DPW; these procedures are outlined in an Interoffice Memo, provided as Exhibit E.

The County maintains a database of stormwater management BMPs on both public and private properties. At the time of the inspection, the County had 10,278 BMPs. The database contains records of 7,800 private stormwater management agreements. During the inspection, County staff provided an example of a stormwater management BMP record from the database (see Exhibit F). Table 1 summarizes the BMP records in the database by ownership. The County explained that the database is web-based and can be accessed by the public, though write-access is reserved for County employees. The Environmental Code Administrator, who is responsible for maintaining the database, indicated that between 700 and 1,000 new stormwater facilities are added to the database each year.

Table 1. Anne Arundel County Stormwater BMP Database Summary (By Ownership)

Ownership Code	Ownership	Number of BMPs
A	Anne Arundel Community College	8
B	Board of Education	42
C	Central Services	24
I	DPW - Infrastructure Management	135
O	DPW - Road Operations	26
P	Recreation and Parks	40
R	Private Owner	8,507
S	DPW - Solid Waste	8
U	DPW – Utilities	22
W	Public Works	1,152
(blank)	(no code entered)	314
Total		**9,964**

DPW keeps additional records for the BMPs they are responsible for maintaining and inspecting in a geospatial Public Works database (those represented by ownership code "W" in Table 1). At the time of the inspection, there were 750 BMPs in the Public Works database; this included 391 ponds and 265 infiltration trenches. DPW indicated that this database is still being developed and not all BMPs are currently represented in it. The Public Works Maintenance Project Manager indicated that they take on approximately 40 new facilities each year.

Compliance Hotline

The County operates a 24-hour hotline for environmental complaints, which is one of the ways the County becomes aware of failed BMPs. The hotline is answered by the I&P Department during the day and by an answering service during nonbusiness hours. The answering service contacts the Environmental Code Administrator, who evaluates the complaint and determines if it must be addressed during off hours (in which case he addresses it) or if it can be addressed on the following business day. The Environmental Code Administrator indicated that those complaints that relate to critical area violations or activities that may have further environmental impact if not addressed immediately would be taken care of during off hours. All complaints are logged on a "Request for Investigation" form and entered in the Internet-based compliance database, where they are tracked through complaint close-out; Exhibit G includes an example Request for Investigation Form and Exhibit H includes an excerpt from the Inspections and Permits Compliance Database. The Environmental Code Administrator provided two interoffice memoranda that outline complaint processing procedures; they are included in Exhibit I. Refer to section D for additional details regarding the publicized compliance hotline.

Post-Construction Inspections

The County has two separate teams that conduct stormwater facility preventative maintenance inspections. DPW inspects and maintains publicly owned facilities while the Department of I&P inspects private facilities, as well as public facilities not under the jurisdiction of the DPW. There is currently one inspector in the Department of I&P who performs triennial inspections. There is one DPW inspections supervisor who works with contractors (KCI) that perform the majority of DWP's triennial inspections. Legal authority to enforce deficiencies found during inspections is documented in Article 16 of the Anne Arundel County Code (Exhibit A).

On December 10, 2008, the EPA inspection team shadowed a Department of I&P inspector and a Public Works inspector on routine site visits. Two private and one public BMP were visited; below are descriptions of these visits.

Site: Private BMP at Riva Festival

Photographs 1 through 5 in Attachment 5 were taken at this private commercial site, which consisted of a large stormwater management pond for control and treatment of runoff from a shopping center and parking lots. The Department of I&P inspector had noted a failure of the overflow structure previously and was following up to review construction progress on the repair. The site included a stormwater management pond with a barrel riser as the overflow mechanism. When the water level in the pond exceeded the design height of the overflow riser, water would flow through the riser into the two outfall pipes that transported the water from the pond to the nearby creek. An insufficient amount of soil surrounding the base of the riser was allowing water to flow directly into the overflow pipe before the water level reached the riser height. Repair of this failure was underway during the inspection. The Department of I&P inspector noted that a medium size tree was growing along the bank near the outfall structure (refer to Photograph 2); he indicated that he would have this tree removed because the County prefers to not have any large vegetation growing within 25 feet of outfall structures. This tree had not been noted in previous inspections. It appeared that proper erosion and sediment controls were in place at the construction site; however, the EPA inspection team observed a soil stock pile and a partially open bag of flowable fill upstream of the pond, which have the potential to contaminate the pond during a heavy rain (refer to Photographs 4 and 5). The Department of I&P inspector did not appear to be concerned with these items.

Site: Private BMP at River Oaks

Photographs 6 through 9 in Attachment 5 were taken at this private residential complex that manages stormwater runoff from roof tops, lawns, roadways, and parking through a series of stormwater inlets, pipes, and dry extended detention stormwater management ponds. The Department of I&P inspector indicated that he focuses only on the stormwater ponds and surrounding fences and does not inspect the surrounding infrastructure, which included several stormwater inlet structures, connected downspouts, and a natural rain garden near one of the ponds. The Department of I&P inspector indicated that he specifically reviews the following features when performing a triennial inspection of a stormwater pond:

- Fence – checks the lock and fence structure for good repair;
- Headwall – reviews for debris and structural integrity;
- Stone dewatering device – checks for presence of infiltration trench or dewatering device within the pond and checks for debris or repair needs; and
- Riprap apron surrounding the pond and outfall structure(s) – checks for good repair (has there been significant washout) and makes sure that mowing or trimming has occurred so that he can clearly see influent and outfall structures (and that all larger trees have been removed).

The inspector noted that when deficiencies are observed, the County will issue a correction notice to the owner (often a homeowners association) and return to the site at a later date to verify that the necessary repairs were made. During this site visit the inspector noted yard waste that had been dumped inside the BMP fencing and a few areas of the fence that were in need of repair. The Inspector indicated

that he would issue a correction notice to the owner and conduct a follow-up site visit to verify that repairs were made.[3]

Site: Public BMP at Yorktown Manor

Photographs 10 through 14 were taken at the publicly owned stormwater management pond in a residential subdivision. This was a follow-up inspection; the DPW inspector indicated that the triennial inspections are typically performed by a contractor, though he will conduct a follow-up inspection after the contractor on occasion to verify their findings. During this inspection, the DPW inspector verified the security of the fence surrounding the pond, checked the inlet and outlet structures for debris, and ensured that the vegetation in the pond had been recently mowed. He did not raise any concerns during the inspection. Photograph 13 shows significant build up of debris around the outlet structure, which was not noted by the DPW inspector.

Finding 1. Failure to conduct preventative maintenance inspections of *all* stormwater management facilities at least on a triennial basis

Part III.E.1.a of the Permit requires that the County "conduct preventative maintenance inspections of all stormwater management facilities at least on a triennial basis." During the inspection, County representatives stated that they do not inspect "all" stormwater management facilities on a triennial basis. They explained that only devices of a certain scale (large community-scale private ponds and public facilities not under the jurisdiction of DPW) are scheduled for inspections. The County indicated that they do not have the resources to inspect all 7,800 BMPs that are covered by Stormwater Inspection and Maintenance Agreements, instead inspections are only scheduled for those smaller scale BMPs if a complaint is received about the device. The Department of I&P indicated that approximately 3,000 of the 8,812 non-DPW facilities are inspected over three years as part of their triennial inspection program. The 3,000 facilities inspected by the Department of I&P over the past three years include private facilities and all public facilities that are not maintained by DPW. Approximately one-third of the BMP inspections that the Department of I&P is responsible for conducting on a triennial basis are currently being performed. Table 1 summarizes the BMP facilities, by ownership, currently in the County's database. The Environmental Code Administrator indicated that the number of inspectors on staff was one, which was not sufficient to meet this requirement. He explained that prior to 2003 the County had two maintenance inspectors that performed the triennial inspections and four inspectors that performed the initial post-construction BMP inspections and the one year follow-up inspections.

B. Requirement III.E.3 – Illicit Discharge Detection and Elimination

The County's Illicit Discharge Detection and Elimination (IDDE) program is implemented by several County departments and a County contractor. The County's DPW, Watershed and Ecosystem Services, and its contractor, KCI Technologies (KCI), are responsible for conducting field screening of at least 150 outfalls annually, conducting an annual survey of commercial and industrial watersheds, and reporting to MDE on all activities.

According to County representatives, Anne Arundel County's I&P Department maintains an inspection and enforcement program for the discharge of "non-natural stormwater" into the County storm drain system. Such "non-natural" stormwater includes illicit discharges, illegal dumping, and spills. This program is based on complaints filed by the public, by other Department inspectors, and by the contractor hired by the County to perform the outfall monitoring (KCI). The County's I&P Department is responsible for maintaining an illicit discharge reporting hotline. In the County's 2007 Annual Report, the

3 The EPA inspection team has requested copies of follow-up documentation from the County regarding the findings and corrective actions at River Oaks; documentation will be appended to the report when it is received.

Department reported that the County had received no public complaints of any illegal dumping or spills during the reporting period.

KCI conducts the permit-required comprehensive field screening of outfalls and commercial/ industrial surveys, and it provides the County detailed documentation of suspected illicit discharges and evidence of illegal activities or storage in the upland areas. The County's Watershed and Ecosystem Services Division reviews the documentation provided by KCI and refers the results to the County's I&P Department for follow-up.

Anne Arundel County Code (2005), Article 16, Title 3 (Stormwater Management) (Exhibit A), appears to provide the County with adequate legal authority to control illicit discharges, illegal dumping, and spills and to enforce the County's stormwater management policies.

In 2007, field screening and the commercial/industrial surveys were focused on four major commercial and industrial areas in the County. Based on documentation and interviews with field staff, the County appeared to follow commonly accepted field-screening methods, including field analytical monitoring of suspected illicit discharges. Of the 150 outfalls screened, 48 were reported to have dry-weather flow. Through further investigation and field analytical sampling, KCI identified two outfalls with illicit discharges and six sites with evidence of illegal activities or storage (referred to by the County as "Upland Pollutant Sources"), for a total of eight cases.

The EPA inspection team accompanied County and KCI personnel to two locations identified as having illicit discharges or illegal activities or storage during the 2007 field-screening and routine commercial/industrial survey activities. These site visits included a physical review of the site, a review of the field-screening procedures (conducted by KCI), and a review of the documentation completed during the screening and survey process. The following sections describe observations made during the site visits.

Site: Shoreline Seafood – 1034 Route 3 North, Gambrills, MD 21054

Shoreline Seafood is a seafood processing company and seafood market. On September 4, 2007, while performing field screening, KCI identified an illicit discharge to a storm drain that was connected to an ephemeral stream. KCI discovered "a very turbid, foul smelling, fly infested outfall draining the back parking lot of the seafood company, in which a dumpster was found leaking into the inlet and other sources of fluids and rotting seafood in delivery/trash containers." KCI also noted, "A greenish/brown flow was present in the ephemeral stream channel downstream of the outfall…." KCI's documentation indicated that a field sample was not collected because of the foul smell and obvious nature of the discharge.

The County's I&P Department conducted a follow-up investigation at the facility on November 11, 2007 (over 2 months later) and discovered conditions similar to those which KCI had noted during the original field-screening activities. Upon further investigation, the County referred the facility to the Anne Arundel County Department of Health for enforcement under the County Food Service Code. A County representative stated that the case had been closed because of the referral to the County Department of Health. Exhibit J provides documentation of the events provided by the County, including the original KCI report and documentation by the County's I&P Department.

The EPA inspection team visited the facility on December 9, 2008, and noted site conditions similar to those found during the previous two visits by KCI and the County; however, the greenish-brown flow noted by KCI was not apparent. The EPA inspection team noted that general housekeeping was poor. Specifically, the team observed several open containers of shucked oyster shells, full containers

of canola oil, full gasoline containers, general debris, and several empty seafood and trash storage containers located throughout the area that drained directly to the on-site storm drain and subsequently to an ephemeral stream behind the facility (Photographs 15 through 23). In addition, a hose that originated inside the building and ended in the parking area was evident. Because the facility was closed the day of the visit, the EPA inspection team could not obtain access to the building or an explanation of the purpose of the hose. It appeared that the poor housekeeping had resulted in a strong odor coming from the site, stains on the pavement (Photograph 19), and an apparent sheen on the standing water inside the storm drain inlet (Photograph 21).

Site: Patuxent Companies – 2124 Priest Bridge Road, Crofton, MD 21054

Patuxent Companies provides services such as aggregate hauling, roll-off service, solid waste and recycling services, low-boy and truck fleet service, rubble recycling, an aggregate retail yard, and an aggregate stone quarry. On August 14, 2007, while performing field screening, KCI discovered runoff going into an inlet in the Patuxent Company's maintenance facility parking lot. KCI noted that "…the pavement around the inlet was wet with a foamy residue on the blacktop. There was also a trail of fluids leading to the inlet from a heavy equipment repair garage adjacent to the inlet. There appeared to be hoses, buckets, vacuums, and other supplies necessary to wash or rinse vehicles at this location into the inlet." Documentation provided to the EPA inspection team indicated that KCI had subsequently conducted field sampling for detergents for storm sewer outfalls in the area, but detected no detergents.

The County's I&P Department conducted a follow-up investigation at the facility on November 15, 2007 (over 3 months later). The documentation provided to the EPA inspection team indicated that the I&P inspector met with a facility representative, who provided information regarding the facility's newly installed "McHenry Equipment water purification system" (Photograph 28). The facility representative stated during the visit that the system had been in use for approximately one month at the time of the County's visit. It was not clear from documentation provided to the EPA inspection team whether the purification system was connected to the storm sewer or to the sanitary sewer. Exhibit J provides documentation of the events provided by the County, including the original KCI report and documentation by the County's I&P Department.

The EPA inspection team visited the facility on December 9, 2008, and confirmed that the facility's purification system was in place, that it appeared to be operating, and that general housekeeping appeared adequate (Photographs 24 through 28). No facility representative was available during the site visit.

Finding 2. Failure to maintain a program to address illegal dumping and spills

Part III.E.3.c of the Permit requires the County to "maintain a program to address illegal dumping and spills." Based on conversations with County representatives, it appears that the County does not have an effective program to address illegal dumping and spills that result in a discharge to the County's MS4, due to the fact that only eight illicit discharges and upland pollution sources were documented and the fact that there were zero public reports of illegal dumping and spills during the 2007 reporting period. The County maintains a public hotline, but representatives reported that no public notification of illegal dumping or spills was received during 2007. The complaints received by the hotline were related primarily to erosion and sediment control violations and "Critical Area" complaints. Although the lack of any calls regarding illegal dumping and spills to the MS4 might indicate that there are no issues related to this program component, it could also be the result of a lack of proper public education regarding the identification of illegal activities, the importance of reporting such activities, and the existence of the hotline. The EPA inspection team strongly recommends that the County evaluate why no public reports of illegal dumping or spills were received and initiate a corrective action plan based on the results. The EPA

inspection team also strongly recommends that the County conduct community outreach regarding public identification and reporting of illicit discharges, illegal dumping, and spills.

The County stated that the spills occurring on roadways are typically handled by the County fire department and that the State Office of Emergency Management is contacted in the event of large-scale spills. According to County representatives, reports of roadway spills that enter the County's MS4 are not provided to DPW by either agency for reporting purposes under the permit. County representatives stated that the County firefighters are trained on hazardous materials and spill management every two years to heighten their awareness of water quality issues and potential pollutant discharges to surface waters. The EPA inspection team recommends that the County DPW coordinate with the County fire department and State Office of Emergency Management to ensure that all reports of spills that enter the County's MS4 are provided to DPW. The reports should, at a minimum, include the size, type, and amount of material that entered the MS4 during the spills. The EPA inspection team also recommends that DPW review the County fire department's spill response procedures and training topics on a biennial basis (possibly coinciding with the firefighter training) to ensure adequate protection of the MS4.

Finding 3. Failure to use appropriate follow-up and enforcement procedures for investigating and eliminating illicit discharges, illegal dumping, and spills

Part III.E.3.d of the Permit requires the County to use appropriate enforcement procedures for investigating and eliminating illicit dischargers, illegal dumping, and spills. Based on the site visit to Shoreline Seafood, review of documentation provided by the County, and interviews of County staff and MDE contacts, it appeared that the County is not adequately addressing and enforcing illicit discharges. The County appears to be effectively meeting the requirements for field-screening 150 outfalls and conducting routine commercial/industrial surveys to identify illicit discharges and activities, but it is slow to conduct follow-up inspections (typically waiting 2 to 3 months) and relies predominantly on MDE and other agencies (e.g., Anne Arundel County Department of Health) to remedy situations. In addition, according to the County representatives, the County has yet to pursue enforcement on illicit discharges or "Upland Pollutant Sources" even though it appears to have adequate legal authority to do so.

During the 2007 annual reporting period, the County identified a total of only eight illicit discharges and upland pollutant sources. The County incorrectly referred at least three of the eight identified illicit discharges or illegal activities to MDE (three for vehicle-washing activities, discussed further below) and the County's Department of Health (one for a leaking dumpster and general housekeeping). Of the four remaining cases, one case was determined not to be an illicit discharge; one facility voluntarily implemented a corrective action; one case had no additional information provided, and one case was correctly referred to MDE for apparent violation of NPDES permit requirements, although no follow-up documentation was provided for the case. Table 2 summarizes all the 2007 cases and Exhibit J provides full documentation of the cases.

According to an MDE representative, the State does not permit vehicle-washing activities to discharge to storm sewers or waters of the State. In addition, the County identified the MDE-referred facilities as automobile dealerships (SIC Code 5511), which is not an industry regulated by the State's NPDES Industrial Stormwater Permit. Therefore, it appears that the County referred the facilities to MDE for follow-up based on an incorrect understanding that the facilities are regulated by the State's NPDES Industrial Stormwater Permit. Furthermore, based on the site conditions observed at Shoreline Seafood, it did not appear that the County's Department of Health had adequately addressed the discharge of pollutants to the on-site storm drain.

The site visits and documentation provided by the County indicated that the County had not appropriately followed up for a large percentage of the cases provided by KCI. It also did not appear that

the referral process had been effective because the County considered referred cases "closed" upon their referral to MDE and other agencies. In addition, the County did not take any interim actions to terminate discharges referred to other organizations, nor did it conduct any additional follow-up to ensure that the discharges to the MS4 were terminated after referral.

The County is strongly encouraged to review the cases that it has referred to other agencies for the past several years and to contact MDE regarding which types of cases should be referred to the State and which should be handled by the County.

Table 2. 2007 Illicit Discharge Case Information

Report Type	Facility/ Location	Original (KCI) Discovery Date	KCI-Reported Issue	I&P Response/Action	I&P Response Date
Upland Pollutant Source #1	Patuxent Companies	8/15/2007	Vehicle/equipment washing with no stormwater BMPs	Issues voluntarily corrected	11/15/2007
Upland Pollutant Source #2	Aggregate Industries	8/15/2007	Issue with stormwater BMP, apparent violation of NPDES permit	Referred to MDE for NPDES Industrial Permit violation	11/14/2007
Upland Pollutant Source #3	Capital Raceway Complex	9/4/2007	Erosion around outfall	No illicit connection found	11/15/2007
Upland Pollutant Source #4	Tischer Acura	9/17/2007	Vehicle/equipment washing with no stormwater BMPs	Referred to MDE (has coverage under NPDES Industrial Permit; not in compliance with SWPPP)	11/15/2007
Upland Pollutant Source #5	Tischer Nissan	10/16/2007	Vehicle/equipment washing with no stormwater BMPs	Referred to MDE for NPDES Industrial Permit Violation	11/15/2007
Upland Pollutant Source #6	Atlas Container	8/15/07	Vehicle/equipment washing with no stormwater BMPs	No information provided	No information provided
Illicit Connection #1	Shoreline Seafood	9/24/2007	Leaking dumpster and visible discharge	Referred to Anne Arundel County Department of Health (Standard Industrial Classification (SIC) Code 2092)	11/14/2007
Illicit Connection #2	Ourisman Honda	9/24/2007	Vehicle/equipment washing with no stormwater BMPs	Referred to MDE for coverage under MD NPDES Industrial Permit (SIC Code 5511)	11/15/2007

Finding 4. The County has not developed a standard operating procedure for documenting, reporting, tracking, and conducting adequate follow-up of potential illicit discharges or other pollutant sources

The County has not developed a standard operating procedure for documenting, reporting, tracking, and adequately following up on potential illicit discharges, "Upland Pollutant Sources," or other pollutant sources identified by KCI, the public, or County representatives. Based on conversations with the County representatives and a review of follow-up activities, the EPA inspection team recommends

that the County develop a standard operating procedure to ensure that all potential illicit discharges and pollution sources are documented, tracked, and reported and that adequate follow-up is conducted to eliminate discharges to the MS4. The procedure should include, at a minimum, requirements for documenting, reporting, and tracking responses to reports of potential illicit discharges; a time frame within which the response should occur; a clear description of the process needed to eliminate the discharge or pollutant source or a description of procedures to stop discharges to the storm sewer until the proper authority can follow up; acceptable criteria for referring cases to other organizations; and a reference sheet or material outlining the requirements of coverage under the State's NPDES Industrial Stormwater Permit (e.g., SIC Codes).

The EPA inspection team also recommends that the County implement a periodic training course to teach municipal personnel and field staff responsible for routine field activities (specifically, DPW and Bureau of Highways field staff) how to identify and report conditions in stormwater facilities that might indicate the presence of illicit discharges to the MS4.

C. Requirement III.E.4 – County Property Management

The County's Property Management program element, as specified by the permit, is managed by the County's DPW. The County has identified seven water reclamation facilities (WRFs) that have obtained NPDES direct discharge permits that contain stormwater requirements, as well as three landfills and eight vehicle maintenance facilities that have obtained permit coverage under the State's NPDES Industrial Stormwater Permit (Discharge Permit No. 02-SW). The individual County departments responsible for the different types of facilities are also responsible for applying for permit coverage and maintaining compliance with the individual and general NPDES permits for their respective facilities. The County appears to have adequately identified County-owned facilities that require NPDES Stormwater Permit coverage, and has submitted notices of intent (NOIs). The County has also developed a stormwater pollution prevention plan (SWPPP) for each facility, though as discussed below the inspection team identified concerns with SWPPPs at some of the facilities inspected.

The EPA inspection team accompanied County personnel to two of the eight vehicle maintenance facilities and one landfill. The site visits included a physical review of the site, review of material-handling practices, and review of the facility-specific SWPPP and associated documentation. The following sections include the observations that the EPA inspection team made during the site visits.

Site: Central District Roads – Crownsville Yard at 1847 Crownsville Road, Annapolis, MD 21401

The Crownsville Yard (facility) covers approximately 2.7 acres and has two buildings, two sheds for material storage, a sand/salt storage shed, and a single-bay garage with an office. The facility stores and maintains 10 dump trucks, four pickup trucks, one backhoe, and one loader. It has a fueling station with underground storage of gasoline and diesel and conducts vehicle washing outdoors. There are two outfalls—one to a County ditch that runs alongside the facility and another from a stormwater management pond that has an overflow to the County ditch.

According to the facility representative, the site's SWPPP was prepared in anticipation of the EPA inspection of the County's MS4 program and was signed December 5, 2008 (four days before the inspection). The EPA inspection team noted that the SWPPP did not meet the requirements of Discharge Permit No. 02-SW-1179. The SWPPP was generic and did not include appropriate BMPs or stormwater management pond inspection and maintenance requirements, nor did it include all the sections required by Discharge Permit No. 02-SW. Because of the date of preparation, the plan did not contain any documentation of past inspections, employee training, or monitoring. Exhibit K contains a copy of the facility's SWPPP.

The EPA inspection team noted several physical issues throughout the facility, including improper maintenance of stormwater controls, inadequate BMP implementation, a lack of secondary containment of an aboveground heating oil tank, a failure to review transfer procedures for petroleum products, failure to maintain adequate secondary containment for a calcium chloride storage tank (open drain valve), and failure to review the operation and maintenance of an oil/water separator and fueling station (Photographs 29 through 48).

Site: Central District Roads – Odenton Yard (formerly Western District) at 1427 Duckens Street, Odenton, MD 21401

The Odenton Yard (facility) covers approximately 3.1 acres and comprises two buildings, three sheds for material storage, a sand/salt storage shed, and a five-bay garage with an office. The facility stores and maintains 10 dump trucks, four pickup trucks, two backhoes, three roadside mowers, two loaders, one excavation/grading vehicle, and one vactor. It has a fueling station with underground storage of gasoline and diesel and conducts vehicle washing. The entire site drains to an on-site stormwater management pond.

According to the facility representative, the site's SWPPP was prepared in anticipation of the EPA inspection of the County's MS4 program and was signed December 5, 2008 (approximately four days before the inspection). The EPA inspection team noted that the SWPPP was generic and did not meet the requirements of Discharge Permit No. 02-SW-1177. It did not include appropriate BMPs or stormwater management pond inspection and maintenance requirements, nor did it contain all sections required by Discharge Permit No. 02-SW. Because of the date of preparation, the plan did not contain any documentation of past inspections, employee training, or monitoring. Exhibit L contains a copy of the Facility's SWPPP.

The EPA inspection team noted several physical issues throughout the facility. They included improper maintenance of stormwater controls, inadequate BMP implementation, failure to review transfer procedures for deicing materials (calcium chloride) and petroleum products, and failure to review the operation and maintenance of an oil/water separator and fueling station (Photographs 49 through 63).

Site: Millersville Landfill and Resource Recovery Facility – 389 Burns Crossing Road, Severn, MD 21144

The Millersville Landfill and Resource Recovery Facility (facility) is regulated by Permit No. 02-SW-0298. The facility is a multicell landfill on 565 acres. Additional areas of industrial activity at the facility include leachate collection and storage, pretreatment facilities, a convenience center for collection of recycled materials and refuse, a paper recovery facility for recycling cardboard and paper products, a vehicle and equipment maintenance building, a warehouse, and a compost facility.

The EPA inspection team noted minor deficiencies in the facility's SWPPP and applicable records. The SWPPP did not contain a signature certifying the plan and was last updated in 2004. The EPA inspection team noted no physical deficiencies during the site visit (Photographs 64 through 67).

Finding 5. Failure to track the status of pollution prevention plan development and implementation

Permit requirement III.E.4 requires the County to track the status of pollution prevention plan development and implementation. The County failed to track the status of the SWPPP development and implementation at its eight vehicle maintenance facilities. The County appears to have adequately

prepared SWPPPs for the remaining County facilities—the seven WRFs and three landfills. Each facility has obtained coverage under General Discharge Permit No. 02-SW, and therefore is required to prepare and implement a SWPPP. The County's 2007 Annual Report failed to disclose that the eight vehicle maintenance facilities had failed to develop and implement the required SWPPPs. According to the facility representatives, the SWPPPs for the maintenance facilities were developed in response to EPA's announcement of this inspection. The SWPPPs were signed on December 5, 2008 (four days before the inspection) and were not adequately implemented.

Finding 6. Failure to develop and implement adequate pollution prevention plans

The County failed to adequately develop and implement SWPPPs for each of the eight vehicle maintenance facilities. The facilities are managed by the County's DPW, Highways Division. The EPA inspection team noted that the SWPPPs provided for the eight facilities were generic and did not meet the requirements of Discharge Permit No. 02-SW. The plans did not include appropriate BMPs or stormwater management pond inspection and maintenance requirements, and did not contain all the sections required by Discharge Permit No. 02-SW. Because of the date of preparation, the plans did not contain any documentation of past inspections, employee training, or monitoring.

The inspection team also identified several physical deficiencies at the two vehicle maintenance facilities. The County's failure to develop and implement adequate SWPPPs might have contributed to these physical deficiencies. The EPA inspection team recommends that the County develop and implement adequate SWPPPs to address all stormwater-related issues at the vehicle maintenance facilities. It is also recommended that the physical deficiencies noted during the site visits at the two maintenance facilities be corrected and that facility personnel be trained and all required documentation be maintained.

D. Requirement III.E.6 – Public Education

Publicized Compliance Hotline

Part III.E.6.a. of the Permit requires the County to "publicize a compliance hotline for the public reporting of suspected illicit discharges, illegal dumping, and spills." As discussed in Section A, the County operates a 24-hour hotline for environmental complaints. Complaints are entered based on phone calls received from the community as well as reports called in from County inspectors regarding environmental concerns observed in the field. The County provided a monthly summary of the number of complaints received; 928 complaints were recorded in 2007 and 912 in 2008. These complaints related primarily to erosion and sediment control concerns. The summary table indicated that these complaints resulted in 1,027 inspections in 2007 and 653 in 2008.

The 2007 Annual Report stated that the County "received no complaints regarding illegal dumping or spills" via the hotline. Although the lack of any calls regarding illegal dumping, spills, and connections to the MS4 may indicate that there are no issues related to that program component in the County, it could also be due to inadequate advertising of the hotline for this purpose. The EPA inspection team recommends that the County conduct further community outreach regarding reporting of illicit discharges, illegal dumping and spills.

Water Quality Education and Outreach

The County conducts education and outreach programs with the residential community through meetings with the Board of Realtors and local consulting engineers. The County personnel indicated that they do not conduct any outreach programs with industrial or commercial facilities. The County is

currently in the process of obtaining funding to support a new "train the trainers" program called the Watershed Stewards Academy through which the County will educate community leaders to become "Master Watershed Stewards." According to documentation provided during the inspection (included as Exhibit M), the intention of this program is to "educate the stewards on relevant Bay issues within their respective community and empower them to educate and engage a broad base of citizens and businesses in a coordinated effort to move to action on multiple initiatives designed to dramatically reduce the impacts of stormwater on receiving streams and the Chesapeake Bay."

Many of the communities within Anne Arundel County have active groups and community organizations that initiate and execute MS4-related education and outreach. In its 2007 Annual Report, the County discussed the following groups:

- Maryland Tributary Teams – County staff participate in several of the teams and facilitated forums with County staff, developers, and environmental advocates;
- Riverkeepers – Four Riverkeeper groups are active in the County and participate in coordination meetings with the County; and
- Greater Severna Park Watershed Action Group – An umbrella organization established in 2005 coordinating environmental activities among the following groups: the Greater Severna Park Chamber of Commerce; the Greater Severna Park Council (an umbrella group of community associations); the Magothy River Association (MRA); the Association for Severna Park Improvement, Renewal, and Enhancement (ASPIRE); and Anne Arundel County Government.

Part III.E.6.b of the permit requires that the County provide information regarding several water quality issues to the general public. The 2007 Annual Report presented new brochures and pamphlets that were provided to the public to address: grinder pumps, water conservation, road usage and safety tips during snowstorms, household hazardous waste disposal, and septic system and well water contamination. The 2007 Annual Report also indicated that the County has previously provided materials regarding: recycling, composting, yard waste recycling, and proper septic system maintenance outreach. Although some issues are addressed by the materials listed in the 2007 Annual Report, several issues outlined in the permit were not addressed in the 2007 Annual Report. Those issues include:

- Stormwater management facility maintenance;
- Erosion and sediment control;
- Lawn care and landscape management (e.g., the proper use of herbicides, pesticides, and fertilizers, ice control and snow removal, cash for clippers);
- Car care, mass transit, and alternative transportation; and
- Pet waste management.

E. Requirement III.H – Assessment of Controls

The County's Watershed and Ecosystem Services Department is responsible for conducting biological, physical, and chemical monitoring. The County has contracted with KCI to collect the permit-required samples at two locations to represent the Picture Springs and Church Creek watersheds. KCI has prepared and implemented a Quality Assurance Project Plan (QAPP) and reviews the plan annually.

The EPA inspection team identified no findings or deficiencies with respect to this program element. Based on an office discussion and a review of documentation provided, the County appeared to be effectively implementing the Assessment of Controls provisions of the Permit.

Although it noted no findings or deficiencies, the EPA inspection team strongly recommends that the County continue to make every attempt to collect samples from at least 12 storm events per year (at least 3 events per quarter) at both monitoring locations. The County reported in its 2007 Annual Report that only seven storm events could be sampled during the November 2006 to October 2007 sampling period. The County was able to obtain five additional base flow samples, as allowed by the permit (Part H.1.a.), during that period to satisfy the permit requirements.

IV. ADDITIONAL CONCERNS

The EPA inspection team found the following additional concerns during the inspection.

A. Use of Personnel Names Rather Than Titles in Procedures

In some of the County's standard operating procedures, the EPA inspection team noted that proper names were used rather than the responsible employee's title. For example, in Exhibit F under the section entitled "Public SWM Devices Maintained by DPW," the procedure states that "the Erosion Control Inspector is to contact Mr. Richard Olsen at X-7190…" This is a concern because if there is turnover within the County that procedure will become invalid. The EPA inspection team recommends that the County revise all procedural documents to indicate job titles instead of proper names.